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ABSTRACT

This study was designed to solicit responses from senior citizens (adults over the age of 55) who had enrolled in a computer course after retirement. The information is intended to aid program planners for seniors in developing future courses. Seventy-six seniors from four local sites (Puget Sound, Washington) and two nationwide online services completed surveys detailing why they had enrolled in the course, if the course had met their reasons for enrolling, and how they were using their computer skills currently. Suggestions for future courses and comments were also solicited. The majority of seniors (45) completed computer courses to learn the basics of the computer for the first time and 74% were satisfied that the course had met their needs. Some of the reasons given for a course's failure to meet the students' needs were: "not complex enough"; "too much at one time"; "too brief"; and "too technical." The variety of uses that seniors found for their newly learned skills was unexpected. Uses included: financial and home records (37%); word processing (30%); online (21%); volunteer work (17%); and games (13%). Recommendations for further research is recommended with emphasis on ethnic/racial backgrounds. Seven figures and seven tables illustrate data. Appendices include: the survey; site descriptions; survey responses to "other reasons for enrolling in a computer course"; responses to "why computer courses did not meet senior needs"; responses from "how seniors use computer skills"; suggestions and comments from surveys; and synopses of interviews with selected participant. (Contains 27 references.) (MAS)

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# Cyber-Seniors: Planning Computer Courses for Older Adults

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Running Head: CYBER-SENIORS

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Abstract

This study was designed to solicit responses from seniors who had enrolled in a computer course after retirement. The information is intended to aid program planners for seniors in developing future courses. Seventy-six seniors from four local sites and two on-line services completed surveys detailing why they had enrolled in the course, if the course had met their reasons for enrolling, and how they were using their computer skills currently. Suggestions for future courses and comments were also solicited. .The overwhelming majority of seniors completed computer courses to learn the basics of the computer for the first time and 74% were satisfied that the course had met their needs. The variety of uses that seniors found for their newly learned skills was unexpected. Recommendations for senior program planners are included. Further research is recommended with emphasis on ethnic/racial backgrounds.

**Cyber-Seniors: Planning Computer Courses for Older Adults**

In the process of conducting an evaluation for a Seattle-area senior learning program, we discovered an anomaly: among the more popular offerings were computer classes, and this for a student population whose average age was 69!

Subsequent study has uncovered that this is in reality not unusual; contrary to beliefs held by some educators and the general population, age is not an obstacle to exploring high technology. However, the literature is not documenting this phenomenon to any extent. Apart from some general enthusing, there's not much of what we consider the most valuable input for programmers: feedback from the older adults themselves about what they've found valuable in formal classes and how they are currently using the computer in their lives. That is the focus of our research.

Prior to reviewing the literature that actually focuses on educational programming for older adults and computer instruction, it is worth considering the dimensions of the user group. In 1985 the Office of Technology (OTA) reported that the 35 million adults over the age of 55 were virtually left out of the computer revolution. This represents approximately 20% of the U.S. population (Furlong, 1989). Seniors, as a group, have had relatively little exposure to computers. A 1994 survey by Inteco Corp. (Seattle Times, 10/23/94) indicates that while 35% of the American households have a computer, less than half that many, or 16% of households headed by older adults, have personal computers. An official with the Puget Sound SeniorNet organization (one of the largest chapters of this national computer organization for seniors) estimates that currently 10-15% of the senior population is actively interested in computers (Hernandez, 1995). Using the OTA statistics, this would mean between 3.5 and 5.5 million older adults can be considered "cyber-seniors." Moreover, the field will continue to grow. According to the American Association of Retired Persons, the number of older Americans has increased by 14% or 3.6 million since 1980, compared to an increase of 5% for the under-65 population (AARP

in Courtenay, 1987). As one educator expressed it, "For the first time in the history of our country, we are seeing a generation of retirees sixty-five years and older with an expectancy of 15 to 40 additional years of life." (Fisher, 1989).

The abilities of these older adults to learn has been receiving considerable attention by experts on human intelligence and learning. Studies done in the 1920's and 1930's had reported that learning peaked at about age 20 and declined significantly in the later years. However, subsequent research, beginning in the 1950's, rebutted that thinking (Lowy & O'Connor, 1986). A number of newer theories on the nature of intelligence, studies on the impact of non-cognitive factors (such as hearing, anxiety, negative stereotyping), and the active lifestyles of many elders have led to a different understanding of older learners. When environmental and situational factors have been equalized, there is ample evidence that older adults can learn as much, and often at the same level, as younger students (Even, 1978; Hulicka & Gounard, 1978; Lowy & O'Connor, 1986; Willis, 1982).

## Literature review

Among the challenges for educational programmers, then, is to determine what the nation's elders seek in terms of computer education and what types of courses best meet their felt and expressed needs. The literature has more references to older adults' ability to learn than to learning to use computers per se. Frequently the province of continuing education or senior center programs, computer education for seniors is not often found in the literature.

We will begin by reviewing some general articles on older adults and computers and conclude with those concerning specific types of programs.

Older adults and computers

S. A. Baack, T. S. Brown, and J. T. Brown (1991) pointed out that older adults are stereotyped as having a negative attitude toward change and innovation. Although the older adults they tested (n=184) indicated less willingness to engage in hands-on computer activities than the young adult participants (n=235), the seniors' attitudes were positive toward computers and technology. Baack et al. cited gender, computer experience, education, and a perceived need to use a computer as variables that can impact attitude. In addition, the authors pointed out the potential impact of computer familiarity in providing a sense of personal control and independence. Their opinion is that seniors learn computer skills best in a non-intimidating environment.

Furlong (1989) agrees with Ansley and Erber (1988) that there is no real difference between elders and other age groups who have learned how to use a computer. Furlong reports they learned at about the same rate, made similar mistakes, and were equally enthusiastic about what they learned.

Hoot and Hayslip (1983) enthusiastically endorse computer use for seniors. "Never before in our history has so much potential for individualized lifelong learning been available to senior citizens," they assert (p. 496). They point out a number of characteristics that make computers particularly amenable for use by older adults. Computers are infinitely patient, removing the time pressure that can create anxiety among many seniors. They are non-judgmental, because learning takes place between the user and an inanimate object which does not chastise the learner. Regular use of the computer promotes a sense of self-sufficiency and independence. The opportunity also exists for connection with other computers and databases throughout the country. With very limited training, older adults can utilize programs for keeping financial records, maintaining appointment schedules and records, improving memory skills, and developing games using graphics capabilities. Weisman (1983) concurs with their assessment.

Hoot and Hayslip (1983) also rebut obstacles often cited by the computer industry in marketing to senior citizens. The authors maintain that mental and physical difficulties for seniors are not as widespread as stereotyping would indicate. In fact the ease of key touch of the computer, voice entry, and the ability to enlarge typefaces contribute to the appeal of the computer to a physically impaired senior. Financial affordability has been enhanced, they note, by the steady reduction in the cost of home computers.

Ansley and Erber (1988) agree with Hoot and Hayslip on the lack of marketing to seniors by the computer industry. Their study (n=60) also disputes the stereotype of elders being resistant to using a computer. According to them, possible use of computers by elders could include accessing housing information, ordering groceries, finding medical information, or reporting on daily well-being to a central source. They echo Baack et al. (1991) that older adults are not homogenous in their attitudes toward new technology.

Jaycox and Hicks (1976) point out that elders are different as individuals just as other age groups are. Differences include: physical ability; educational levels; work experiences; socioeconomic status; hobbies; interests; degree of involvement; and ethnicity. The researchers point out that "Nothing 'miraculous' happens at age 65--or 60, or 70, or 80--to magically eliminate the habits, attitudes, and values which have been occurring throughout a person's life." (p. 6). They define the goal of computer literacy for elders to mean that seniors can gain at least a minimal understanding of the computer's role in their lives. Older students are more accepting of this role if they understand the computer's basic functioning and the importance of the human element--knowing that people, not machines, do the programming.

Jaycox and Hicks go on to say that access is the first consideration in developing a computer program for elders, but that access alone does not guarantee use. Computers are used by elders who are sufficiently comfortable and motivated to experiment hands-on.

Specific programs

Formal classroom programs

Administrators of Syracuse University's All University Gerontology Center (AUGC) began a "Computers and the Elderly" program in 1983 (Owen, 1991). One of their original purposes was to conduct research regarding the impact of computer use on the elderly. In 1985 the program split into two divisions. One group volunteered to teach computer use to students in an elementary school, making it, they said, one of the first successful programs using older adults to teach children computer skills. Learning enough about the computer to teach children gave seniors a sense of accomplishment and self esteem, Owen reported, even if they didn't develop their own skills further. In addition, acquiring basic skills allowed them to feel more a part of the world of technology. A second group developed one of the original sites of the emerging national SeniorNet computer network.

Feedback from the elders who participated included a frequent request for more practice time. The seniors experienced some trouble retaining learned concepts due to lack of access (many participants did not own computers).

Another report is from a course (n=40) specifically designed for Australian seniors in Brisbane (Swindell, 1986). Course developers hoped to offer a class which would enable the elderly to gain further control over their lives. The specific course objective was to teach word processing skills to offset deteriorating handwriting associated with aging.

When asked why they had enrolled in a computer course, students replied:

1) to learn why grandchildren are so engrossed in computers;

2) to keep up with changes in new technology;

3) to learn new skills for recreation;

4) to prove to their children that they are capable of keeping up with society;

5) to learn word processing for a variety of reasons;

6) to maintain written communication with friends despite physical impairment.

The course consisted of theme lectures and workshops where hands-on computer time was available. Sessions originally scheduled for two hours were increased to two-and-a-half hours by group consensus.

The learners were very task-oriented and wished to acquire concrete skills quickly, Swindell said. He found through this group that the computer seems to motivate older learners in the same way it does the young by providing an immediate reward for effort. This reward provides stimulus toward further effort.

Swindell reported his amazement at the interest, motivation, and enthusiasm of the seniors, which far exceeded anything he had experienced with younger learners. Most of the participants in this course requested a follow-up course within six to twelve months.

On-line programs

In addition to basic computer classes designed for seniors, on-line programs have emerged as a popular choice. SeniorNet, an international non-profit program which provides computer classes for seniors around the world, began at the University of San Francisco (USF) in 1986 (Furlong, 1989). It currently has 14,000 members, who pay $25 per year for educational materials, discounted computer equipment and services, and the opportunity to take computer classes (at no additional cost). These courses are offered at 60 SeniorNet learning centers nationwide (Office of Technology Assessment, 1993; Hernandez, 1995).

SeniorNet also provides older adults access to the America Online network at a reduced rate during non-peak hours. Approximately 2,000 members utilize this service (Rigidon, 1994; Hernandez, 1995). According to SeniorNet executive director Mary Furlong, potential uses of on-line services for older adults include communication and social interaction, access to on-line learning on a wide variety of topics, opportunities for entertainment and health care information. Elders can also communicate on the impacts of pending legislation, the best places to retire, answers to financial questions, and opportunities to meet others with similar interests and needs (Furlong, 1989; Collinge, 1993).

In a 1989 survey conducted by SeniorNet, 64% of seniors said they joined the organization to gain access to information. Fifty-four percent gave "to remain active" as their main reason; 48%, keeping up with new technologies; and 41%, connecting with others (Furlong, 1989).

Although information access is the most frequently cited reason for joining the network, Furlong says communicating with others is essentially the network's most popular activity. From July 1988 through December 1988, 60% of total network use was for electronic mail, discussion forums, and conferencing (1989).

"SeniorNet has demonstrated overall that user-friendly, low-cost training, and access make it possible for senior citizens to benefit from computer-based services," a recent government report noted (Office of Technology Assessment, 1992, n.p.).

An e-mail for elders project was conducted in 1989 at the State University of New York at Buffalo. The study involved 40 senior citizens, ranging from 50 years of age to 94 years of age, with a mean of 68 (Czaja, 1989). The average number of years of education was 13.5, with a range of 10-18. None entered the program with operational computer skills. Computers were placed in participants' homes. Individualized instruction was provided; no formal group classes were held. A goal of the project was to identify

difficulties elderly computer users might encounter and what preferred uses they might have for their computers.

Czaja noted that participants preferred e-mail to the telephone because it was easier to use, "fascinating," and deep feelings could be expressed more easily. Most of the participants described their learning experience as fast, easy, simple, and fun. All of them liked e-mail and 97% said they would use computers in their homes. The most common system problems they reported: jammed printers. Training difficulties occurred with the participants learning a keyboard that was different in some ways from the standard typewriter.

The same group articulated features they would like on their own computers:

83% said a personal data base;

79% word processing capability;

76% community service information;

76% physician contact capability;

76% travel information;

72% help balancing checkbook;

72% continuing education;

72% news and weather information.

Czaja concluded that teaching the elderly how to use computers should proceed slowly and deliberately, reinforcing previously learned concepts to increase retention (1989).

Intergenerational

As reported previously by Owen (1991), Syracuse University sponsored a program in which seniors taught elementary students to use computers. Another computer program configuration for the elderly involves elementary school students as teachers. Drenning

and Getz (1992) note that having elementary students teach computers to seniors facilitates positive relationships between the two groups, develops student self-esteem, and helps diminish seniors' fear of technology. They report it aids in the development of time management and organizational skills for both groups. It also allows seniors to utilize the school system and its equipment that their tax dollars support.

Hicks and Jaycox (1976) support intergenerational contact as important and beneficial to all when using computers. Hoot and Hayslip (1983) suggest that computer-literate senior volunteers refute the stereotypical image children may have about the elderly.

In a local example, SeniorNet of Puget Sound uses the computer facilities at Phantom Lake Elementary School in Bellevue, Washington, for their class instruction (seniors teaching seniors). In return for the use of the facilities, seniors tutor elementary students in reading (Hernandez, 1995).

Frail elderly

There is also research being done to adapt electronic technologies for the "frail elderly," those who are 75 and over with cognitive, affective, or physical challenges that place considerable limits on their everyday activities (Katzowitz, 1989). Memory training, for example, is facilitated by computer use, even as simple as playing games. Selected game activities encourage the frail elderly to concentrate and focus attention, exercise eye-hand coordination, develop a sense of mastery of new material, and challenge their thinking processes (Weisman, 1983).

Participants in a recent conference on Adapting New Technologies to Serve the Frail Elderly (Katzowitz, 1989) suggested making computers more user-friendly for the frail by insuring that the programs be simple to learn, simple to operate, and simple to correct mistakes. Aids to this would include touch screen capability, voice activation, large typeface, and auditory feedback for keys.

Although Dibner (in Katzowitz, 1989) restricts his list of motivations to the frail elderly, it echoes what other authors indicate as motivations for seniors to learn computer technology: memory jogging; record-keeping for themselves and pets; bookkeeping; continued learning; maintaining a social life and sense of community; amusement; reminiscing; having a creative outlet; and sustaining a productive old age.

Whatever the orientation of the program, several educators have pointed out the importance of computers as a tool that can directly serve seniors' interests and needs (Baack et al., 1991; Hicks, 1976; Hoot & Hayslip, 1983). Although it is critical to learn what elders, both frail and hardy, desire as well as need, Katzowitz (1989) reminds us that any conclusions drawn from the current older population will require reassessment and possible revision as those reared in a technologically different period arrive at retirement.

This review of the literature indicates to us that there is still a dearth of information gained directly from the subjects of the research, older adult learners themselves. There are a variety of formal classes being offered for them in various settings. There is, however, little publicized data from the clients about why they are taking classes, whether the classes meet their expectations, and if they continue to use the computer after receiving some training. We propose to expand this base of information to assist those who create computer courses for seniors. The following sections of this report will present our method, data, and analysis.

## Description of the study

### Purpose

The purpose of this descriptive study was to provide useful information to planners of senior computer courses. Our goal was to obtain data from the clients, older adults themselves.

We did not have a hypothesis in the classic sense, but rather an interest in finding the answers to these questions: Why are senior citizens learning to use the personal computer? Had they taken a course? Had the course met their needs? What suggestions could they offer to improve computer courses? How can we as educational programmers help meet their needs?

In addition, we sought feedback as to how the students are actually using computers now. Knowing what the real uses are can be helpful in designing relevant courses and programs for these learners.

As a secondary function, our study would also provide seniors a forum for their opinions about computer use for elders.

Design

We developed an eight-item, one page survey to be completed by the seniors anonymously. The target population was adults over 55 who had learned how to use a personal computer in their retirement years. The accessible population came from the Puget Sound area and from two nationwide on-line services. The sample was clustered; within the clusters, our intention was that the sample be random. It was a convenience sample. We selected four senior program sites and two on-line services with senior forums because it was the most expedient way to contact the age cohort that was the subject of this study. The survey period was three months.

The study did not seek to evaluate any program at a specific site.

Locally, the sites comprised:

**Northshore Senior Center** (NSSC), a full service senior center. NSSC offers computer courses and a computer lab as part of an array of programs including social activities and health services. Approximately 6,000 seniors participate in at least one activity at NSSC annually.

**Lifetime Learning Center** (LLC), an academic, non-credit program for those over 50. Approximately 400 seniors enroll each quarter in a variety of college-level courses.

**SeniorNet Learning Center**, a program dedicated to computer education by and for seniors. The Puget Sound chapter is the largest single chapter of SeniorNet in the United States with 450 members.

**Telos**, an academic, non-credit program for seniors, sponsored by Bellevue Community College and the Bellevue Parks and Recreation Department. It has approximately 250-300 members.

In addition, we accessed respondents directly through two on-line services:

**America Online**--Surveys were posted on AARP Online in the Message Center and on SeniorNet in the forum "Getting to Know Computers." We e-mailed directly to the SeniorNet Online Ambassadors and other selected forum participants. Surveys could be returned via e-mail on the Internet or America Online.

**CompuServe**--Seniors were contacted though a posting in the Town Square section in "Retirement Living + Forum" and by corresponding with those under a Computer/Graphics heading in that forum.

Surveys at NSSC and Telos were administered by staff. We distributed the surveys at LLC and at Puget Sound SeniorNet, as well as via the on-line services.

We also conducted interviews at LLC, the SeniorNet chapter and on-line.

The study consists of presentation of data in both narrative and graphic form. Analysis and discussion of results are followed by conclusions and recommendations.

Supplemental material is included in the appendixes.

## Results

We obtained 102 surveys. We determined 76 were valid (75% of the total surveys). Our initial proposal defined validity for the survey as meeting two criteria: first, respondents had to be older adults, 55 years of age and beyond; second, they also must have taken a computer course after retirement. Once we had analyzed the responses, however, we did include two participants who were 53 years of age. In both cases, they were taking a computer course designed for senior citizens offered at a senior center. Since our focus was on formal computer instruction in retirement, we excluded those who were self-taught or who had learned through employment prior to retiring.

The initial three items provide background information: age, gender, and highest educational level achieved. Following that, the complete text of Items 4-7 in the survey is given with both narrative and graphic explanations of data obtained.

A brief discussion of the comments and suggestions (Item 8) has been included. A recap of significant points from our one-on-one interviews concludes the section.

The validity of the surveys was based on the overall completeness of response and answers to the key questions of age and reasons for enrolling. We did not require that all of the questions on the survey be answered for the survey to be considered valid. In the presentation of data, we have noted the number of non-responses to each item.

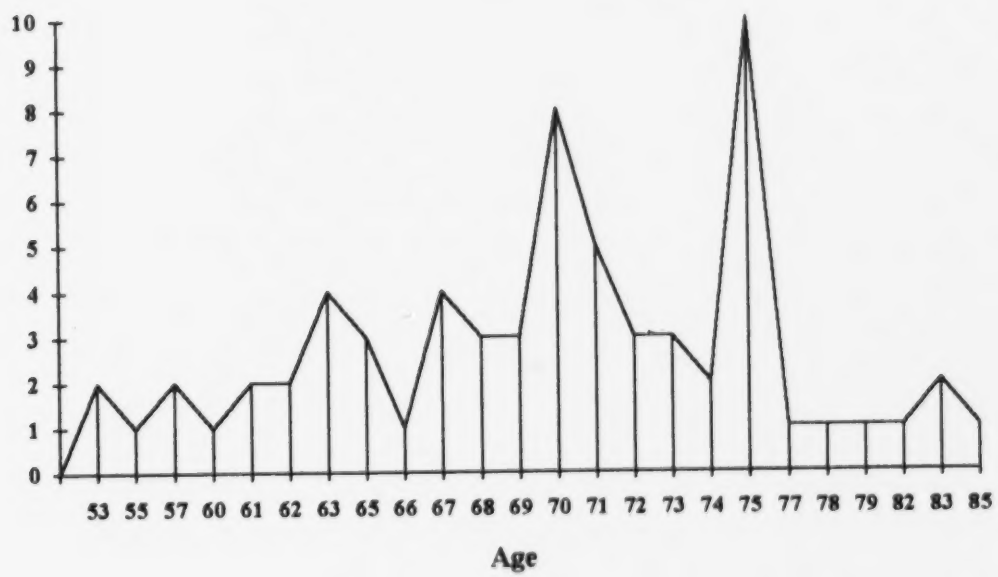
Item 1. Background: Age

The mean age of the respondents that we could quantify (n=66) was 69.5 years. The median was 71.5 years and the mode, 75 years. Of the remaining 10 seniors, 7 responded as "senior," one as "legal," and one as "over 65." There was one respondent who did not complete this item, but from our direct observation, he met the age criteria.

Figure 1 represents the data obtained from this item.

**FIGURE 1**

**Number of respondents, by age.**



Item 2. Background: Gender

There were 75 valid responses, and 1 non-response. Sixty percent (or 45 individuals) indicated they were female; forty percent (or 30 individuals) identified themselves as male.

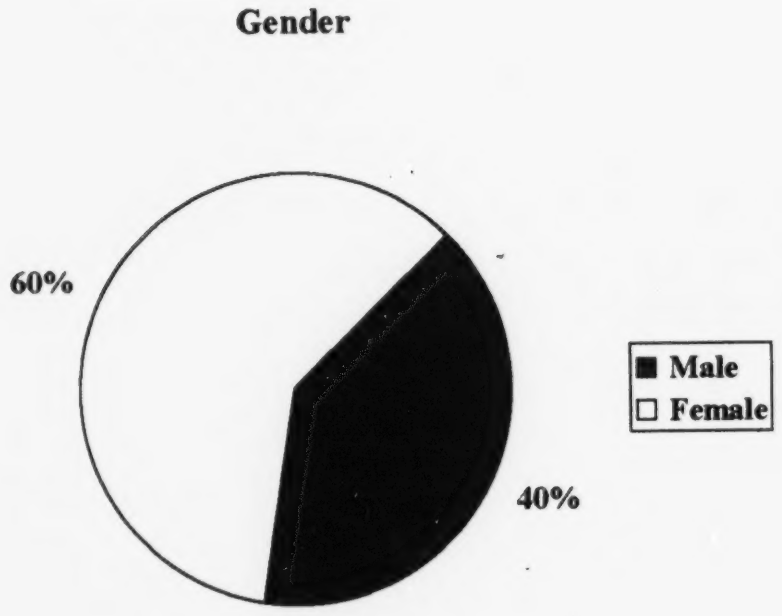
Table 2 and Figure 2 represent the data obtained from this item.

**TABLE 2**

| Gender | Male | Female |
|---|---|---|
| Number of Respondents* | 30 | 45 |
| Percentages | 40% | 60% |

* Of 76 valid surveys, 1 had no response.

**FIGURE 2**



Item 3. Background: Highest educational level achieved

There were 9 non-responses in this category (n=67). In addition, there were two categories that produced no responses: "No formal education" and "Grade school or less." The category "Some high school" was indicated by 1.5%, while 6% indicated "High school graduate" as their highest educational attainment. The largest percentage of respondents (43%) indicated they had "Some college"; 22.5% had graduated with a bachelor's degree. The final 27% indicated they had completed "Graduate school or more."

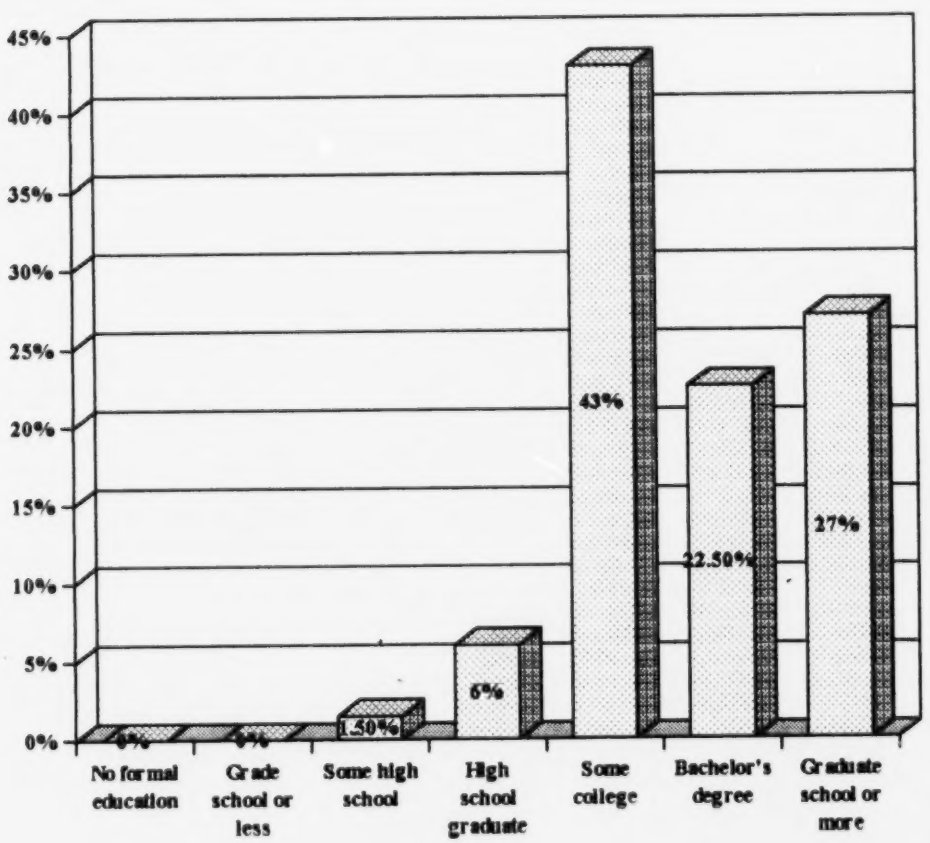
Table 3 and Figure 3 represent the data obtained from this item.

**TABLE 3**

| Highest Educational Level | No formal education | Grade school or less | Some high school | High School Graduate | Some College | Bachelor's degree | Graduate school or more |
|---|---|---|---|---|---|---|---|
| Respondents* | 0 | 0 | 1 | 4 | 29 | 15 | 18 |
| Percentages of 67 valid surveys | 0% | 0% | 1.5% | 6% | 43% | 22.5% | 27% |

* Of the 76 valid surveys, 9 had no response in this category.

**FIGURE 3**



Item 4. Where did you take your first computer course? (Name of school or program)

Of the 76 respondents, three chose not to answer this question. Although we contacted seniors at six current sites, results indicated their first computer learning experiences had been in courses at 26 different sites. We classified the 73 responses according to the type of program they represented. The program types and percentages were:

- senior centers (30%), which we defined as those offering health services and social activities in addition to their education component, e.g., Northshore Senior Center;
- computer-only programs (29%), specifically offering computer education only, e.g., SeniorNet;
- senior learning programs (19%), defined as providing academic classes for seniors, e.g., Lifetime Learning Center;
- community colleges or vocational-technical schools (15%), providing programs that are not age-specific;
- other (7%), which includes programs that do not fit in the above categories.

We also asked for course title and month and year completed. These items were asked only to help screen out courses taken prior to retirement or before age 55. We also wanted to eliminate computer courses not specifically related to personal computers. These responses are neither quantified nor discussed.

Table 4 and Figure 4 represent the data obtained from Item 4.

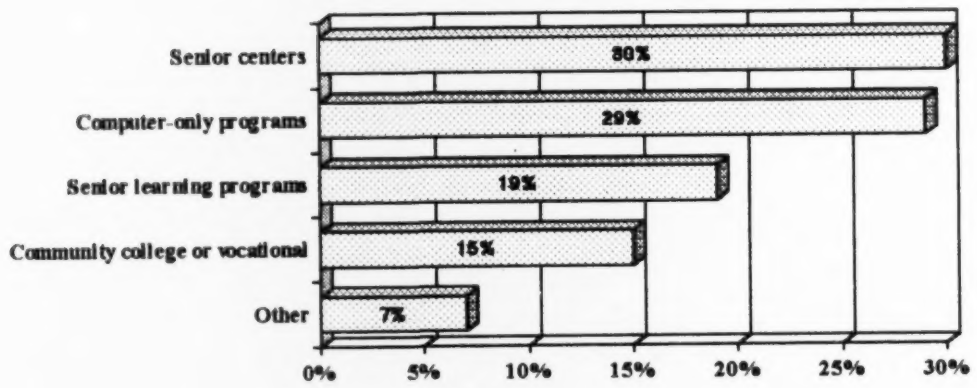
**TABLE 4**

| Course Locations | Senior centers | Computer-only programs | Senior learning programs | Community colleges or vocational | Other |
|---|---|---|---|---|---|
| Respondents* | 22 | 21 | 14 | 11 | 5 |
| Percentages of 73 valid surveys | 30% | 29% | 19% | 15% | 7% |

* Of the 76 valid surveys, 3 chose not to respond to this question.

**FIGURE 4**

**Course Locations**



Item 5. Why did you enroll in the computer course? (Check one)

Choices: Learn computer basics for the first time

Review and practice previously learned computer skills

To meet people with similar interests

Other

All respondents answered this question. Fifty-four respondents chose only one response, as directed. The other 22 chose multiple responses.

Of those choosing only one reason, 45 indicated "Learn computer basics for the first time" as their reason for enrolling. Six selected "Review and practice previously learned computer skills." No one chose "To meet people with similar interests" as their primary reason, and three marked "Other."

Of those who indicated two or more responses, 15 chose "To meet people..."; 14 said "Review and practice..."; and 13 said "To learn basics...". "Other" garnered eight responses.

In the "Other" category were included such responses as: "accompany spouse"; "to write life story"; "to keep current"; and "to upgrade education." The complete text of "Other" responses can be found in Appendix C.

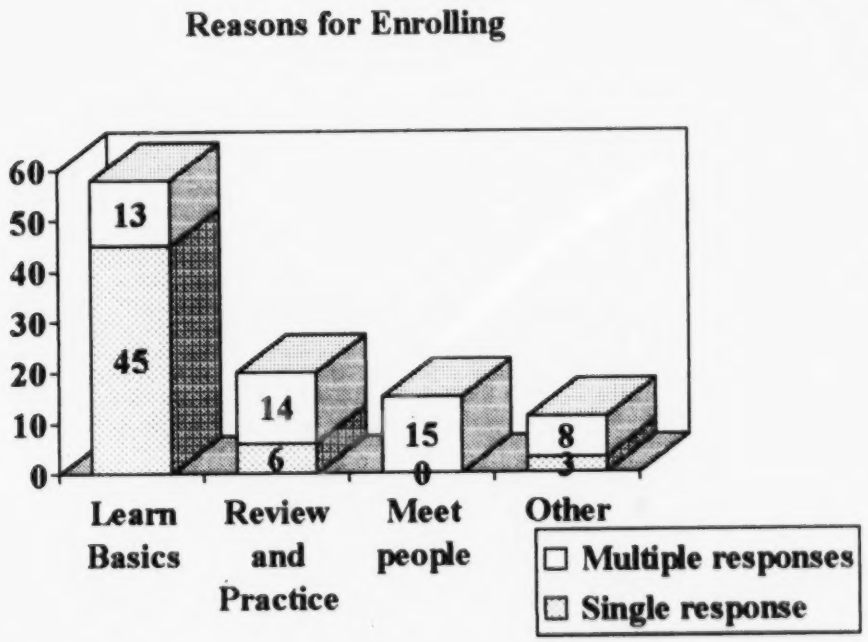
Table 5 and Figure 5 represent the data obtained from this item.

TABLE 5

| Reasons for Enrolling | Learn Basics | Review and Practice | Meet people | Other |
|---|---|---|---|---|
| Single response | 45 | 6 | 0 | 3 |
| Multiple responses* | 13 | 14 | 15 | 8 |

* Of 76 valid surveys, 54 respondents chose only one response, as directed. The other 22 chose multiple responses.

FIGURE 5



Item 6. Did the course meet your reason for enrolling? If not, why not?

From 76 surveys, there were 71 responses to this question. Seventy-four percent said "Yes." Twenty percent said "No." And in the tradition of Yes-No questions on surveys, six percent indicated a third choice, "Yes and No" or "Somewhat." The third choice responses are quantified under "Other."

Some of the reasons given for a course's failure to meet student needs were: "not complex enough"; "too much at one time"; "too brief"; "waste of time"; and "too technical." The complete text of all reasons given on the surveys can be found in Appendix D.

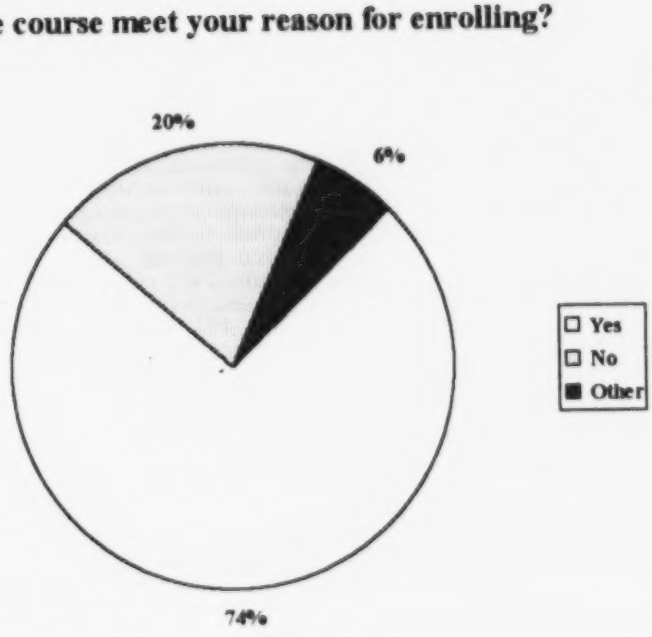
Table 6 and Figure 6 represent the data obtained from this item.

**TABLE 6**

| Did the course meet your reason for enrolling? | Yes | No | Other |
|---|---|---|---|
| Respondents* | 53 | 14 | 4 |
| Percentages of 71 valid surveys | 74 | 20 | 6 |

* Of 76 valid surveys, 5 chose not to respond to this question.

**FIGURE 6**



Item 7. How are you using your computer skills now?

From 70 survey responses, we classified the answers to this question in nine categories. Six surveys had no response. Percentages total more than 100% since respondents indicated more than one use.

Classifications and percentage of responses are:

Financial and home records (37%)

Word processing (30%)

On-line (21%)

Volunteer work (17%)

Games (13%)

Business-related (6%)

Miscellaneous (6%)

Genealogy (6%)

Graphics (3%)

The complete text of all responses to this item can be found in Appendix E. Table 7 and Figure 7 represent the data obtained from this item.

TABLE 7

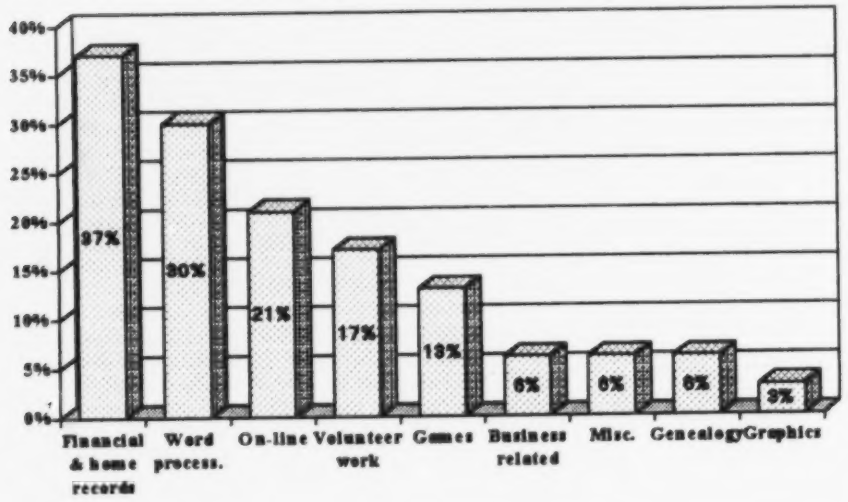
| Computer Uses | Financial and home records | Word processing | On-line | Volunteer work | Games |
|---|---|---|---|---|---|
| Responses* | 26 | 21 | 15 | 12 | 9 |
| Percentages of 70 valid surveys | 37% | 30% | 21% | 17% | 13% |

| Computer Uses (cont.) | Business related | Misc. | Genealogy | Graphics |
|---|---|---|---|---|
| Responses* | 4 | 4 | 4 | 2 |
| Percentages of 70 valid surveys | 6% | 6% | 6% | 3% |

*Of 76 valid surveys, 6 chose not to respond to this question. Surveys may have contained more than one response.

FIGURE 7

How are you using the computer now?



Item 8. Suggestions and comments

This item provides examples of the diversity of the groups we surveyed. From 76 surveys, we had 37 suggestions or comments. Responses ranged from kudos about courses and programs to ideas about future courses. They will be discussed in greater detail in the section Discussion of Results.

Interviews

We chose to do some interviews because we wanted to find out, particularly from people who did not meet the criteria of the survey, if there were any important data we were missing. We interviewed 12 seniors, selected randomly from several sites. From these interviews it appeared that the surveys were answering the questions we had set out to ask. The interviews did not contribute substantial additional information to our knowledge of seniors and computer courses. However, 12 was enough to provide us with a conversational "snapshot" of attitudes among seniors toward the personal computer. These ranged from the pithy "Computers are antisocial" to "you don't learn to use a piano by taking piano lessons. You get a piano and play with it. It's the same with the computer."

Synopses of the interviews are in Appendix G.

## Discussion of results

Distribution of responses was spread somewhat evenly over the four types of sites in this study:

| Type of institution | Total responses | Valid responses |
|---|---|---|
| Senior Center | 27 | 26 |
| Computer-only program | 27 | 20 |
| Senior learning program | 20 | 18 |
| Nationwide on-line programs | 28 | 12 |

Although one-third of the responses were not from the Puget Sound area, but from "cyberspace," it would still be unwise to generalize from these findings to senior computer users everywhere. A convenience sample, by definition, relies more on accessibility of participants than on a carefully constructed representative population. In addition, the extent to which Puget Sound results may have been skewed by our location in a technology hub (e.g., Boeing, Microsoft) should be considered.

Among those who responded, but were not considered for this study's purposes, there were computer users who were self taught (11) and those who had learned in connection with employment (14).

The survey also focused on accessing seniors who were already active in a program locally, thereby eliminating those who were not participants.

We cannot offer any perspective on the ethnic or racial background of the participants since we did not seek that information on the survey. Neither did we ask for income levels, so no conclusions about socioeconomic level can be drawn based on data we collected.

Item 1. Age

Although our expectations that most students would be in the 60's and 70's were borne out, the actual results contained some surprises. The mean of 69.5 years was older than we had anticipated, and we were simply astonished at the mode: 75 years of age. It is worth noting that even in their older years, a number of respondents (10) were reluctant to give a precise age.

Item 2. Gender

We included a request for gender identification in our survey. Sixty percent of the respondents were female. This may be a reflection of the fact that the average life expectancy of women is longer than men. It may indicate that women are more likely than men to complete surveys. From our observation of the site programs in this study (and others we have visited), it would appear that for whatever reason, more women than men participate in organized education programs in retirement. It does demonstrate that among the seniors we surveyed, computers are certainly not considered a male domain.

Item 3. Highest educational background

The low percentage of respondents who did not have any post high school education (7.5%) would seem to be somewhat unusual for this age group. We included the categories "No formal education," "Some grade school," and "Some high school" because the oldest potential respondents were born early in this century, when education was available for all but not everyone was able to take advantage of it. This percentage is lower than expected, but not unlike some other findings. For instance, a 1991 in-house survey distributed at the Lifetime Learning Center in Seattle (n=200), with a similar age distribution, indicated that only 17% had not pursued education beyond high school (Fisher, 1991). Whether computer education by its nature attracts more highly educated

people is beyond the purview of this study. Our findings, however, do appear to offer yet another verification of a maxim among adult educators: the more education a person has, the more he or she will seek.

Item 4. Where did you take your first computer course?

The responses to this item indicate that the seniors we surveyed took their first computer courses at 26 different sites. No one type of program garnered more than 30% of the responses. We do think that the broad spectrum of sites gives us a representative sample of where seniors are taking computer courses. However, we only had access to those who were participating now in one of the programs we selected.

Item 5. Why did you enroll in the computer course?

An overwhelming number (45) chose learning the basics as their reason for taking a computer course. Through interviews and discussions with several of the respondents, it became clear that "basics" did not mean the same thing to everyone. For some, it was how to turn the computer on. Keyboarding was a major concern for others. For some older learners, it was the mechanics of how the computer works; and for still others, it was learning some of the vocabulary of the technological age.

Although it is not a large number in our study, those who selected the "Review and practice" category (20) remind us that there are some students whose first formal computer class my be a review of skills they acquired on their own.

Of those who gave two or more reasons, the response "To meet people with similar interests" indicates that social contact is valued by this cohort. While no one chose it as their only reason for taking a class, "Meet people" received the most votes (15) from those choosing two or more reasons.

The "Other" reasons, found in Appendix C, are similar to the categories we listed on the survey. For this reason, they will not be discussed further here.

Item 6. Did the course meet your reason for enrolling?

Seventy-four percent of seniors indicated their first computer course met their reason for enrolling. That is a particularly significant percentage because senior computer courses are not necessarily taught by professional educators. Many programs rely on volunteer instructors.

While a high percentage indicated satisfaction with their courses, some senior educators have noted that seniors may not volunteer their negative views. Instead, they "vote with their feet." They simply do not return to classes or programs that are not satisfying.

Of those who said "No" or "Yes and No," the reasons given indicated the disparity of technical background among students. This was also demonstrated in comments about a desire for an alternative pace to the class (several said it was too brief, or that there was too much material covered in the time allowed). Negative responses also revealed displeasure with equipment failures of lack of equipment. Criticism of instructors was rare; the teacher's lack of knowledge of the subject matter was mentioned twice.

Item 7. How are you using your computer skills now?

We categorized responses to this item into nine areas, for ease of interpretation. Trends and patterns are easier to observe, we believe, by grouping like uses together.

It is noteworthy that the highest ranking category was financial and home records (37%). The tendency in the literature is to view the most likely uses for older adults as those related to their personal communication. Our results point to managing one's financial and household affairs as the most popular choice. Respondents indicated they

were using their computers for maintaining investment portfolios, writing checks, doing estate planning, recording household inventories, maintaining personal bookkeeping, and accessing stock market quotations.

The next most commonly cited uses were those involving word processing (30%): correspondence, memoirs, newsletters, and recording recipes, to name a few. The 21% who indicated an on-line use refers to those who use e-mail to communicate with family or friends or who "surf the net." The on-line category did not include all on-line uses. For instance, accessing stock market quotations was grouped as a financial use. One of the less-expected responses came from several seniors who indicated they were barely computer-literate and had come on-line looking for help.

We made a separate category for volunteer work because it is sufficiently large to warrant attention as one of the ways seniors use their computers. Seventeen percent reported they use software that allows them to maintain membership rolls, transcribe minutes, and maintain records for a wide variety of local and nationwide organizations of which they are members.

The computer as an entertainment source did not go unnoticed by these older adults; 13% indicated they played games, either alone or within adult children or grandchildren.

Business-related uses (6%) include those pertaining to business skills, with several mentioning accounting or bookkeeping. Either home-based businesses were started after retirement or respondents utilized their computer skills as a way of helping in a family business.

The remaining three categories, miscellaneous (6%), genealogy (6%), and graphics (3%), represent the eclectic interests of older adults. Uses mentioned here included arranging music, writing children's books, quilting, and designing greeting cards, in addition to researching one's family tree.

Item 8. Suggestions and comments

With this item, we were reminded again of the value of having a comments section on a survey, thereby creating a forum for individuals to express feelings and concerns. Among the most affective responses: Courses should be "somehow less intimidating"; "people do not reach out to each other except in formal ways"; and "...I fear the computer."

A desire to be able to practice more, whether in class or at home, appeared several times. Some stressed wanting to learn more about the basics, and mentioned being much less interested in the electronic components of the computer itself.

A need for printed class notes was expressed several times. The advantages of being able to refer to instructor-prepared notes, and to take study material home, were mentioned. Two said they would be willing to pay for such study aids.

A few respondents indicated they did not own a computer, but would now think of acquiring one. Some said they might need more advice or a complete course in buying a computer.

## Conclusions and recommendations

### Conclusions

We began this study with a sequence of questions. We conclude with a series of answers.

As might be expected, a majority of senior citizens begin their formal education about computers with a course about the basics. Less expected perhaps was the realization that "basics" means different things to different older learners. This group of students does seek the fundamental--but it may be an introduction to a software program, the computer itself, or how to succeed in cyberspace.

The current caliber of instruction in senior computer programs would seem to be very good, despite the challenge of accommodating varied interests and backgrounds. Seventy-four percent of older learners felt their first courses met their reasons for enrolling, which is high praise for programs outside the purview of traditional education.

Of particular importance to educational programmers, we think, is the data the seniors provided about how they use computers. Contrary to Ansley and Erber (1988) and Furlong (1989), we did not encounter any expressed interest in using computers to access health information. Furthermore, while some seniors indicated they had begun to use a computer as a way to interact with adult children or grandchildren, far more were involved in managing their own finances, maintaining personal records, and helping volunteer organizations to which they belonged.

The usefulness of a computer course is important to them. Despite their broad spectrum of interests, practicality matters. They are interested in learning what they know they will use, a characteristic of adult learners in general.

While the literature indicates volunteer activity primarily centered around intergenerational projects with school children, our study leads us to conclude there are many seniors putting computer skills to use in many different non-profit organizations.

It is also clear that these students are discerning consumers of educational services. They are well educated and used to the educational system. They expect quality programs and thorough instructor preparation. They are also firm about the need for reliable, current equipment on which to learn. Nor does curiosity appear to diminish with age. Many of these seniors are as interested in the newest software and technology as any students we have met.

Because of the convenience sample and small scope of our study, our findings cannot be generalized to senior computer courses everywhere. We encourage the

replications of the study with other groups. There is also a need for further studies that explore the significance of ethnic or racial background on computer education for seniors.

Recommendations

For anyone planning programs for senior learners, we cannot stress too much the importance of doing ongoing needs assessments. Seniors are not silent participants. Ask them and they will respond, especially when given a forum that can be anonymous.

It is then necessary to listen and heed what they say. One effective way of doing this is to involve seniors in the planning of the program and its operation. Our experience with the local sites in this study provided ample evidence to us of the longevity and success of senior-run programs.

The community can also be included in a meaningful computer program for older learners. The senior's willingness to volunteer can be implemented in intergenerational programs in schools, municipal opportunities, library service, and skill exchanges.

Our recommendations for planning computer courses for seniors include:

- Be in touch with what software programs they are interested in; don't assume where their interests lie.
- Offer a wide variety of courses to accommodate diversity.
- Make prerequisites and course descriptions clear; these students are precise about what they already know or need to know.
- Include practice and lab time. Seniors are serious about computers and a number indicated they wanted lots of practice time to hone their skills
- Consider developing some courses around projects. Older learners may respond more readily to "Learn to write children's books on the computer" than a more generic "Beginning word processing."

- Keep fees low. All of the programs we have studied have fee structures that range from no charge to $59 a course. Even though many of these seniors may have purchased their own computers, they may not be willing to pay high fees for computer instruction.
- Pay attention to the quality and quantity of computer equipment. Seniors were outspoken about the frustrations of working with outdated or nonfunctional equipment. There should be one computer per student.
- Contact computer companies for assistance in providing equipment. (A number of respondents to our study indicated they were taking courses as a way of determining what software and hardware they might want to purchase.)
- And just a reminder: make the print big, the lighting excellent, the chairs comfortable, and the access easy. An aging body should not impede an active mind.

Our earlier experiences with the challenge and fun of working with senior learners led us to this study. We were also touched by the comments of Neal S. Bellos, director of the Gerontology Center at Syracuse University (cited in Owen, 1991, pp. 7-8) who echoes our thoughts:

> In traditional primitive society, older people were the 'computers of society.' They were the repositories of knowledge and the transmitters of culture. The irony of modern life is that elders have lost that function. It's nice to think about trying to redress that imbalance.

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## Appendixes

A. Survey

B. Site descriptions

C. Other reasons for enrolling in a computer course-from surveys

D. Reasons why computer courses did not meet senior needs-from surveys

E. How seniors use computer skills now-from surveys

F. Suggestions and Comments-from surveys

G. Synopses of Interviews

# Computer Course Survey

**Directions: Please complete each item. All answers will be confidential. Thank you for your time in completing this survey.**

**The following information will help us organize the survey responses:**

**Age:_____ ☐ Male ☐ Female**

**Highest educational level: (Check one)**

**_____ no formal education**
**_____ grade school or less**
**_____ some high school**
**_____ high school graduate**
**_____ some college**
**_____ bachelor's degree**
**_____ graduate school or more**

---

**Where did you take your first computer course? (name of the school or program)**

**_____**

**Computer Course Title: _____**

**When did you complete it? (approximately) Month _____ Year_____**

---

**Why did you enroll in the computer course? (Check one)**

**_____ Learn computer basics for the first time**
**_____ Review and practice previously learned computer skills**
**_____ To meet people with similar interests**
**_____ Other_____**

**Did the course meet your reason for enrolling?**
**☐ Yes ☐ No If not, why not?**

**How are you using your computer skills now?**

**Do you have any suggestions for future computer courses or additional comments about your first course? Use the back of this survey if you need more room for your response.**

## Site Descriptions

| Survey Sites | Northshore Senior Center (NSSC) | SeniorNet | Lifetime Learning Center (LLC) | Telos |
|---|---|---|---|---|
| **Description** | A group of seniors who meet in the Center where services and activities are provided to enhance well-being, independence, and encourage community involvement. | A non-profit organization for older adults interested in using computers. | An independent, non-profit educational institution, designed for men and women 50 years of age and older of all races and creeds. | The program for older people who want to maintain a healthy body and mind. Co-sponsored by Bellevue Community College and Bellevue Parks and Recreation Department |
| **Area served** | North King and South Snohomish Counties | Nationwide in the United States and New Zealand | Seattle and vicinity | Eastside |
| **Participants** | 6000 seniors ages 50 and over | 14,000 members ages 55 and over | approx. 400 seniors over 50 | 250-300 seniors |
| **Established** | 1974 | 1986 | 1976 | 1977 |
| **Course offerings** | Through the Computer Learning Center, there are 16 computer classes offered on a quarterly basis. These range from a no-fee lab to Quicken and Word processing | A whole range of computer classes from Intro. to Computers through Going On-line and Spreadsheets. Courses are held in Learning Centers located on 60 sites throughout the country. | Primarily academic. At this time they are not offering a computer course due to lack of reliable equipment. They have offered introductory computer courses in the recent past. | In addition to academic courses, one computer course entitled "Intro. to Computers and Software" is offered quarterly. |
| **Fees** | From no fee to $25 per course for non-members | $35 initially, and $25 per year thereafter | $15 registration and $8 per course | $59.00 per course |
| **Other** | Since moving to their new location in September 1992, over 500 seniors have enrolled in computer classes at this site. | Puget Sound Chapter of SeniorNet is the largest in the country with 450 members. The staff and teachers are all volunteers. | The teachers are volunteers at this site and the director and staff are part-time paid. | This program operates at a number of sites. |
| **Contact** | Shirley Mehlenbacher, Coordinator (206) 488-2060 | Lyle Hernandez, President (206) 641-6025 | Don Erwin, Director (206) 283-5523 | Gordon Hartwich, Director (206) 643-1132 |

| Survey sites (on-line) | America Online | Compuserve |
|---|---|---|
| **Description** | The largest on-line service in the United States with over 1 million sessions per day. | A primarily business oriented on-line service. |
| **Area served** | Nationwide in the United States with Internet capability. | Worldwide |
| **Participants** | 1.5 million members | 1.8 million members |
| **Fees** | $9.95 per month for the first five hours and $2.95 per hour subsequently. | Free the first month and $8.95 for subsequent months. Extended or premium services have an additional charge. |
| **Other** | We posted our survey on AARP Online in the Message Center and on SeniorNet Online in the Getting to Know Computers forum. We also e-mailed directly to SeniorNet Online Ambassadors and selected forum participants. | We posted our survey in Retirement Living Plus in the Town Square forum. |

Appendix C

Other Reasons for Enrolling in Computer Courses
A Collection of Responses from Computer Course Surveys
Administered January-March 1995

- Accompany spouse-2 respondents
- To play "Go"
- To learn applications
- Round table discussions
- I took a class previously so I could prepare to teach a class
- Write life story
- Keep current with kids
- The challenge
- Husband's hobby
- Upgrade education
- Application too work specific
- More skills-2 respondents
- Curious

Appendix D

Reasons Why a Computer Course Did Not Meet the Needs of Seniors
A Collection of Responses from Computer Course Surveys
Administered January-March 1995

- Not complete enough
- Should have waited until I got equipment
- Not complex enough
- Overwhelmed-too little help
- Not enough time on computer
- Too much at one time
- Too basic to be of much help
- Too brief-not geared to a senior computer illiterate
- Not long enough
- Expensive and it did not make me an expert or even unafraid of computers
- Wanted more keyboard instruction
- Waste of time-I knew 90% of what instructor covered
- Too many people who couldn't read the screen or follow most basic of instructions
- The instructor had very little patience for questions-when I got stuck, I had to leave areas without understanding what to do.
- Too technical
- Much more complicated and frustrating than I anticipated
- I need a lot more skill work

Appendix E

How are you using your computer skills now?
A Collection of Responses from Computer Course Survey
Administered January-March 1995

- Still learning
- Hope to buy a PC
- Yes
- Still learning
- Not yet
- To write letters
- In business, using word processing and spreadsheets, processing orders, invoicing customers and accounting procedures
- I'm not
- Designing graphics and arranging music
- Too soon
- I love Prodigy for news, health, people, read Newsweek articles, business and financial news, consumer reports, Sesame Place for the grandchildren, movie reviews, and e-mail to my family. Then I have SeniorNet for 9.95/month unlimited time on forums and bb.
- I went on-line and now learning MS Dos.
- My grand-godchildren are on-line and I have a wonderful time e-mailing with them.
- Genealogy. Have the PAF program from the Latter Day Saints and am checking out my family background, very successfully, and entering it into PAF.
- Through a NOLO Personal Inventory, I am preparing information for my executor for when either I am incapacitated or deceased.
- I follow my IRA's by computer
- One of my friends is losing her eyesight and I am preparing address book, etc. for her in large bold type
- I was in graphics at CBS Radio and now I do flyers, etc. for my volunteer work at Recording for the Blind and the Volunteer Services for Children.

- When I can't sleep, I play solitaire and rummy against the computer.
- I have lively conversations with SeniorNetters on the AOL and in the Forums.
- Word processing for correspondence, technical reports, writing my life story, etc.
- Spreadsheet for tax records, portfolio management, etc.
- Database for tracking medical records, compiling house expenses, etc.
- A few games
- Internet and AOL for e-mail with our scattered children and friends and occasional "surfing the net"
- On a personal note, I would be lost without our computer--it has made my retirement years so much more interesting and productive.
- Mostly as a hobby. Three main areas: a) financial and "home related" use; b) materials related to a volunteer organization I belong to: and c) materials related to the condominium association in which I live. I also use it to access AOL and Internet (via UW).
- Spent $3g on an NEC READY P60M and am learning as I go
- Using skills for meeting people and just plain entertainment, also using a quilt program. Something to do in the evenings. And to make my mind work, which is the real reason. Also have Quicken for my own use and 2 cooking programs, one of which is very good and the other is very slow.
- I've been using it for six or seven years. I make cards; I'm writing my life story (I've gotten up to 1970); play computer games with my grandkids; taking a class in genealogy; making up a cookbook for all of my kids with family recipes I made while they were growing up. I want to be "with it" and part of the "in" crowd.
- Personal business, pleasure, volunteer teaching at SeniorNet
- I now have an LC II and am on-line AOL. I keep all my financial records and checkbooks on MSWorks 3.0. I was Secretary -Treasurer of a bowling league and kept all those records on my LC. Now I am VP of my alumnae association and keep the mailing list current (300 people). I used to do flyers for our educational programs.
- In my daily communication, letters, legal documents, resumes
- Letters, database
- Investments, bank accounts, and others
- Doing mother's recordkeeping, legal matters (personal), did resume for son

- Entertainment, keeping records, keeping track of investments
- Mainly as a typewriter-for letters, notes, etc.
- Genealogy, games, Prodigy, bulletin boards, Internet
- Writing children's books
- Genealogy
- Word processor mainly, writing memoirs, letters, etc.
- Run Senior Driver program and other software
- Multiple ways
- Mostly for word processing
- Internet, letters, info records
- Yes, now teaching word processor and spreadsheets
- Reasonable, I am just learning how to go on-line
- Communication, portfolio management, recordkeeping
- Comm. term., word processor, spreadsheet, data base (investment info and tracking, correspondence, Internet access, organizational records--minutes, fiscal activity, etc.
- Running a business
- SeniorNet
- Hardly ever, still don't feel comfortable with it
- Home PC
- No
- Slowly learning and taking more courses
- Home use
- Using my son's computer
- Not using skills at present. Planning to get a computer soon. Want to start new business using graphics for small remodel jobs (contracting referral service)
- Personal use: letters, house inventory, music and gun inventory, games. Will do addresses, labels, etc. now

- Still trying to use them more easily, writing letters, making lists on data base
- Not using. Trying to develop confidence that I know what I am doing--trying to do no harm
- Still practicing with much more to learn
- Home and business
- Still taking courses and learning. It's lots of fun.
- Letters, access Dow Jones
- Home PC finances, taxes, spreadsheets and data bases, investments, word processor
- Play "Go"
- Typing papers, writing letters, using Quicken
- Searching for a little skill
- Quicken-financial for home/business, games, Prodigy with stock market, e-mail, bulletin boards, etc.
- General at home, letters, games, etc.
- Writing life story
- I have an old one at home
- Am not. Have a Brother Inkjet word processor which I haven't yet hooked up
- Don't have one, would like one.
- Using it solely as a word processor and to save material on floppy disks. Have not ever tried using the modem
- Have no skills
- Word processing and Lotus (taxes, etc.)
- No
- Investment records, banking accounts. Keep records for investment club. Published a directory of all people living in our private area so we could keep in touch and welcome newcomers
- I am the leader of 2 Senior Groups, and my primary objective is to try to keep them informed on the latest technologies, which is not easy, since it changes so fast. Also, we solve computer and software problems that members are having and if we

can't solve it within the group, then I have a lot of expertise at my beck and call because we are part of OKC PC User Group, which is one of the top 10 groups in the USA; I am now Vice President of Special Events for this group and our big event each year is a computer trade show "Stampede '95" which I am now in the process of pulling together for July 14 and 15 at our State Fairgrounds. I write 1 or 2 columns/articles each month for the Monitor, (User group newspaper) and one for The Golden Gazette (newspaper specifically for plus 50 group), addressing for the most part, what seniors are doing with computers, new technologies, and soliciting for new members for our groups. As a result of this activity, receive numerous inquiries about our groups, membership costs, and have begun to receive job requests. The latter is another facet of growth that just happened in the last month. In partnership with my son, I have formed a computer business, which I operate out of my home. My son handles the technical end of the business, including putting together the computers and I handle the management part and hands on help, when required.

Appendix F

Suggestions and Comments from Surveys
A Collection of Responses from Computer Course Surveys
Administered January-March 1995

Question: Do you have any suggestions for future computer courses or additional comments about your first course?

Note: Suggestions and comments have been edited to omit references to specific people or courses.

- Would like to continue with advanced as able!
- Hope to take more
- Follow-up course
- It was very comprehensive.
- Somehow be less intimidating
- Telos-Windows 1
- Grandpal program associated with SeniorNet is a very favorable and worthwhile program
- Would like to have Works again (latest issue)
- I will be starting my first course with SeniorNet tomorrow.
- It would probably be better for me to have good information about computer basics, installing programs, understanding Internet (lots to learn here)
- I'm sure there are other classes I could learn--or hire someone to do a one-on-one for a few weeks
- To understand more about SeniorNet
- Buying a computer, build your own, have own network, more on Internet
- We are adding new courses continually--Quicken, Internet, Financial Investment Programs

- We have just started a course for senior beginners to introduce them to becoming familiar with computers before they learn software applications

- It seems all programs are designed by young computer-literate people. Microsoft, or anyone else aiming for the large senior market, should consult with panels of seniors to find out what will work and what won't.

- More detailed courses for people with no background--takes time!! Many senior citizens want to learn, but nothing extensive enough available for teaching. Existing 2-4 hour courses good, but not nearly long enough to do much.

- Need to have a project given, so you actually do the BOLD graphics or cut, paste and copy so that you can see how it works.

- Have Introduction to Computers beginning and another 4 hour class continuing. It looks like computers are somewhat easy to use, but the commands take time to learn and put to use.

- Printed lessons for each student to keep--so they can review and practice at home. Charge for it!

- Have copies of courses available to students (at a small cost if necessary). Notes taken distract from instructor's direction and application on computer.

- These courses are very good.

- Very well organized and informative.

- More basics, as mentioned above, especially in DOS. An excellent teacher--clear instructions and personal attention to all, and very helpful knowledge.

- Standardize class computers

- 1994 Fall Quarter and 1995 Winter Quarter , I completed 4 computer classes and am signed up for 3 more. The teachers are good, patient; labs and extra help is available. Becoming computer friendly. March 1994, purchased a new 486 with 8MB, multimedia, CD ROM. Gave my old 286 to son. Have been instrumental in getting 2 people to buy and use computers. At my own pace, feel eager to learn most of what my computer can do. PS. I attended Seattle University 1950-51. Great school.

- Note: People do not much reach out to each other except in formal ways--i.e. volunteers, ongoing classes, or meetings. I'm outgoing, visit the center about once a week, haven't made a friend yet. Sorta like in college/university.

- More basics
- As a senior with no computer background, I think we probably need to start as the children do in school? Fun instructor and very good, we enjoyed her.
- I took courses at community college and I am learning more from these classes as the teachers take the time to show us each step. The college classes were too much inf. in too few hours for me to comprehend. Now I'm really using my programs.
- I would like more. I am taking second Windows 12 hour on 1-25-95. I like step by step instructions on handout as given out by teacher on 1-18-95 Windows beginning.
- Beginners need hands on training and access to a computer.
- I would be lost without our computer--it has made my retirement years so much more interesting and productive.
- Classes should not be too technical. I don't need to know how it works, I just need to know how to use it.
- I need a computer at home to practice on. I fear the computer.
- Learn how to use mouse.
- I might take a computer class if it were pertinent, but no ideas at this time.

Appendix G

Interview Synopses
January -March 1995

1. Female. Wants to take a basic course and would like it to be on home TV. Current offerings are too advanced. Courses should start with, first, turn on computer and how to do it before getting into any applications. She has taken no formal classes to this point.

2. Male. First saw an article in the NY Times about SeniorNet. He signed up and is now teaching classes in financial portfolio management. He thinks they should shift emphasis to hands-on practice and have real introductory classes that start with how to turn on a computer and what all the keys on the keyboard do. If he could pick one word to describe the computer, he would choose four: interest, challenge, satisfaction, unique. He's not interested in on-line communication since he thinks the telephone works just as well. One of our favorite quotes: "You don't learn to use a piano by taking piano lessons. You get a piano and play with it. It's the same with the computer."

3. Male. He first took a computer class for self improvement. He is using his computer daily now for a variety of household tasks. If he could change anything about his computer learning experience it would be that he had learned to use one earlier. He describes the computer as a "creative tool" and does use on-line communication infrequently.

4. Male. This senior took a computer class because he wanted to learn something new and become familiar with the new technology. He is teaching at SeniorNet, runs seminars about computer applications and does a lot of correspondence. If he could change anything about his computer learning experience he would like a little more detail on keyboards. He'd have liked to know what every key did because, "after all, it's not a typewriter." He describes the computer as "awesome." He e-mails in the area and really enjoys reaching out into cyberspace. Another favorite quote: "My hard drive gets fuller as I get older and I can't recall everything as quickly."

5. Female. This woman had a computer and took classes to reach out more via fax and modem. She wants to put her computer to "full use." She does word processing, keeps a budget, does flyers for one of her groups and also does memos and agendas for meetings. She thinks that many classes are set up for engineering applications, not for the average person. Basic DOS should be the beginning point, then moving to Windows, graphs and charts, faxes, and modems. She is not on-line yet, but would like to. Her daughter works at Microsoft.

6. Male. Three or four years ago, this senior saw an announcement in the paper about SeniorNet and thought it sounded good. He felt that he needed to keep his brain active and that classes of this sort would help. He uses e-mail regularly and has a management program for his investment portfolio. He really like his learning experiences in computer classes and thought they were all "well organized." His word for the computer is "fascinating." He teaches Intro. to Word Processing at SeniorNet and loves it!

7. Male. This senior retired and felt he was "ready to learn." He uses his computer skills in his volunteer work with The Puget Sound Council of Senior Citizens and communicating with his family. He's really interested in learning more about financial applications, such as Quicken or TurboTax. His communications to his family are on-line and he finds it really helpful.

8. Female. She "got into" computers because of her spouse's interest. She got interested so she decided to try it. She would like to take a beginning class.

9. Male. This senior got his computer from his kids, and it sat for five years. He finally decided to use it and that's how he became involved with SeniorNet. He's taught school before.

10. Male. This man didn't take a class and doesn't own a computer. He thinks computers are a "toy" and used only by people who don't want to think.

11. Female. This senior has a computer and would take a word processing class if offered. She has a journalistic background.

12. Male. A class at the University of Victoria was the first computer learning experience for this man. He didn't want to complete a survey, but he was willing to talk about his experience. The class was divided into pairs and each pair had one computer to use. He was paired with a woman eight to ten years older than himself and she dominated the machine. He admonished us to provide incentives for people to take a class by assigning one person per computer. He describes the computer as "antisocial" and "nosy" and doesn't really wish to take any more courses.